

interposed between the electronic component and the circuit board while correcting warp of the board and crushing the bump with a pressure force of not smaller than 20 gf per bump applied to the electronic component against the circuit board by means of a tool (8) and heat applied from the electronic component side or heat applied from the board side or heat applied from both the electronic component side and the board side, so that the electrode of the electronic component is electrically connected with the electrode of electrically connected the circuit board.

26. An electronic component mounting method as claimed in claim 25, wherein, before mounting the electronic component on the board while aligning in position the electrode of the electronic component with the electrode (5) of the circuit board (4) with interposition of the solid or semi-solid insulating resin layer (6, 306b) in which the insulating resin (306m) is mixed with the inorganic filler (6f) after the formation of the bump,

a tip of the formed bump is shaped so as to prevent collapse of a neck portion of the bump by once pressurizing the bump with a load of not greater than 20 gf.

27. An electronic component mounting method as claimed in claim 25 ~~or 26~~, wherein

the insulating resin (306m) is an insulative thermosetting epoxy resin, and an amount of the inorganic

filler mixed with this insulative thermosetting epoxy resin is 5 to 90 wt% of the insulative thermosetting epoxy resin.

28. An electronic component mounting method comprising:

5 forming a ball (96, 96a) at a tip of a metal wire (95) by an electric spark similarly to wire bonding and forming a gold bump (3, 103) by thermocompression-bonding the formed ball to an electrode (2) of an electronic component (1) with supersonic waves by means of a capillary (93, 193);

10 mounting the electronic component on a circuit board (4) while aligning in position the electrode of the electronic component with an electrode (5) of the board with interposition of a solid or semi-solid insulating resin layer (6, 306b) in which an insulating resin (306m) is mixed with an inorganic filler (6f) without leveling the formed bump;

15 subsequently metallurgically bonding the gold bump to the electrode of the board with supersonic waves applied while shaping the tip so as to prevent collapse of a neck portion of the gold bump with a load applied from an upper surface side of the electronic component by means of a tool (8); and

20 subsequently bonding the electronic component to the circuit board by hardening the insulating resin

interposed between the electronic component and the circuit board while correcting warp of the board and crushing the bump with a pressure force of not smaller than 20 gf per bump applied to the electronic component against the circuit board and heat applied from the upper surface side of the electronic component or heat applied from the board side or heat applied from both the electronic component side and the board side, so that the electrode of the electronic component is electrically connected with the electrode of the circuit board.

29. An electronic component mounting method as claimed in ~~[any one of]~~ claims- 25 ~~[through 28]~~, wherein the electronic component (1) has a plurality of electrodes (2), a solid insulating resin sheet (6) that has a configurational dimension smaller than an outline dimension (OL) defined by joining the plurality of electrodes (2) of the electronic component (1) is stuck as the insulating resin layer to the circuit board (4) before the positional alignment and thereafter subjected to the positional alignment, and at the bonding time, the insulating resin interposed between the electronic component and the circuit board is hardened while concurrently correcting the warp of the circuit board by pressurizing the electronic component against the circuit board with heat applied to the insulating resin sheet (6), so that the electronic